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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,473	04/06/2001	Joseph Allen Carroll	10782-0010	6151

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SUTHERLAND ASBILL & BRENNAN LLP  
999 PEACHTREE STREET, N.E.  
ATLANTA, GA 30309

EXAMINER
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DUONG, THANH P

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/827,473

Applicant(s)

CARROLL ET AL.

Examiner

Tom P. Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 23-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I, claims (1-20 and 23-25) in the reply filed on 1/31/05 is acknowledged. The traversal is on the ground(s) that the claimed process requires the use of an apparatus such as the use of wet scrubber other than the use of a ceramic substrate with a catalyst coating. Use of a wet scrubber therefore would not be practicing the process claimed. This is not found persuasive because the process of reducing smoke and organic volatile does not necessarily require the use of a ceramic substrate but other effective methods of reducing smoke and organic volatile from a vent including but not limited to wet scrubbing, incinerating, plasma treatment, and etc. Alternatively, the catalytic converter with a ceramic substrate can be used in a chemical reactor such as converting SO<sub>2</sub> to SO<sub>3</sub>, or in steam reforming to produce hydrogen, or in other catalytic chemical reaction other than reducing smoke or organic volatile components. It is noted that Mr. Kevin King elected Group I, claims 1-20 and 23-25 during the telephone conversation on 09/24/04 without traverse.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claim 24 is rejected under 35 U.S.C. 102(a) as being anticipated by Mlotek et al. (Pub No. DE019912453A1). Mlotek discloses a catalytic converter device (Figs. 3 and 4) for use in a vent or oven comprising: one or more screens (79, 549) formed of a plurality of woven metal threads (Abstract), defining a plurality of apertures (75) therebetween; a material coating the screens (55, 551, 553), wherein the coating material comprises a catalyst; and a mounting ring (79) comprising (i) a body in the shape of a ring and (iii) one or more locking tabs (81, 83) extending from the body, the one or more locking tabs engageable by snap-fit or slide-lock engagement with one or more surfaces the vent (63) to secure the catalytic converter device within an orifice of the vent such that gases flowing through the vent will pass through the apertures of the one or more screens.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 8-20, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burstein '788 in view of Olivo (5,285,640). Regarding claims 1, 8-10,

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19, and 23, Burstein discloses an oven (Col. 1, lines 5-6) with a catalytic converter device (Fig. 3) for use in a vent (Col. 1, lines 64-65) comprising: a ceramic (6,7,8) substrate having a first surface, a second surface, a circumferential surface, and a plurality of apertures (10) extending through the substrate from the first surface to the second surface; a material coating (Col. 2, lines 56-60) the ceramic substrate, wherein the coating material comprises a noble catalyst (platinum); and a stainless steel mounting ring (rectangular pot 47 and Col. 6, lines 60-62) comprising (i) a body in the shape of a ring (47); (ii) one or more retaining tabs (inwardly directed flange 53) extending from the body which secure the ceramic substrate (6,7,8) within the ring about the circumferential surface of the ceramic substrate; and (iii) one or more locking tabs (secure flange 63) extending from the body, the one or more locking tabs with one or more surfaces the vent to secure the catalytic converter (Fig. 3) within an orifice (27) of the vent such that gases flowing through the vent will pass through the apertures (10) of the substrate. Burstein fails to disclose the locking tabs engageable by snap-fit or slide-lock engagement with one or more surfaces of the vent to secure the catalyst converter. Olivo teaches the catalyst converter (115) can be attached to device 70 by other conventional suitable means, including, but not limited to machine screws, clips, clamps, and snap-fit-engagement other than welding and fastened with nut and bolt. These alternative attachment means facilitate in maintenance or serviceability of the catalyst converter (Col. 7, lines 8-10). Thus, it would have been obvious in view of Olivo to one having ordinary skill in the art to modify the mounting ring of Burstein with locking tabs engageable by snap-fit as taught by Olivo to facilitate accessibility and

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serviceability of the catalyst converter. With respect to the mounting "ring" as being circular, it is well-known in the art that the vent opening or exhaust duct comes with either rectangular or circular shape and it is inherent and/or obvious in view of Burstein to provide a mounting ring, either circular or rectangular in shape depending on the shape of the exhaust duct opening. Regarding claims 2 and 4-5, Burstein fails to disclose the ceramic substrate with thickness and diameter of the claimed invention. However, it would have been obvious in view of Burstein to one having ordinary skill in the art to provide a ceramic substrate with optimum dimension to properly secure the ceramic substrate in the vent opening and to ensure the smoke is completely eliminated. Note, prior art Admission also discloses that the catalytic converter of the claimed invention is commercially available (Specification, page 1, lines 16-25).

Regarding claim 3, Burstein shows a rectangular ceramic substrate as shown in Fig. 3; however, it would have been obvious in view of Burstein to one having ordinary skill in the art to provide round disk or rectangular disk depending on the shape of the vent opening. Regarding claims 11-18, Burstein discloses the claimed invention but fail to disclose expressly a "multi" locking tabs and retaining tabs. However, it is submitted that the securing flange (63) and inwardly directed flange (53) of Burstein are functionally equivalent to the locking tabs and retaining tabs, respectively, of the claimed invention, since Burstein's securing flanges (63) and inwardly directed flange (53) provide equivalent means for securing the catalyst converter. In addition, the mere difference between a one-piece annular securing flanges (63) and a one-piece annular retaining tab (53) of Burstein versus a multi locking tabs and retaining tabs of the

claimed invention is an obvious matter of design choice, absence of unexpected results. Alternatively, the combination of Burstein in view of Olivo provide conventional catalyst supporting means such as clips and/or snap-fit engagement means, which inherently has the multi locking tabs and retaining tabs of the claimed invention. Regarding claim 20, it is conventional to provide an oven with a self-cleaning mechanism and it would have been obvious to do so here to allow the oven to be self-cleaned.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over the applied references (Burstein '788 in view of Olivo '640) as applied to claim 1 above, and further in view of Henderson '457. Regarding claim 6, the applied references fail to disclose the ceramic substrate comprises of cordierite. Henderson teaches the use of a corrugated ceramic of cordierite type (Col. 3, lines 65-70) have been successful in oxidizing or purifying the exhaust gas (Col. 1, lines 40-65). Thus, it would have been obvious in view of Henderson '457 to one having ordinary skill in the art to modify the catalytic converter of the applied references with corrugated ceramic of cordierite type as taught by Henderson in order to affectively oxidize or purifying the exhaust gas.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the applied references (Burstein '788 in view of Olivo '640) as applied to claim 1 above, and further in view of prior art Admission. The applied references fail to disclose the ceramic substrate comprising of a wash coat. Admission discloses (page 7, lines 11-21) it is well known in the art to use a wash coating process to maximize the coating surface area for the ceramic substrate. Thus, it would have been obvious in view of

prior art Admission to one having ordinary skill to modify the catalytic converter of the applied references with the wash coat as disclosed by Admission in order to provide a maximum catalyst contact area for the ceramic substrate.

5. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mlotek et al. (Pub No. DE019912453A1) in view of Olivo '640. Mlotek discloses a catalytic converter device (Figs. 3 and 4) for use in a vent or oven comprising: one or more a ceramic substrate or a screen (55, 551, 553) formed of a plurality of woven metal threads (Abstract), the substrate or screen having a first surface, an opposing second surface, and a plurality of apertures extending from the first surface to the second surface; a material coating substrate or the screens (55, 551, 553), wherein the coating material comprises a catalyst; a body (79) having an opening in the shape of ring around the perimeter or circumference of the catalyst-coated screen or substrate; one or more first retaining tabs (81) extending from the body over an edge portion of the first surface of the catalyst-coated screen or substrate. With respect to the retaining tabs, Mlotek discloses the catalyst housing 79 (Fig. 3) with a bottom-retaining screen with holes 75 to retain and support the catalyst screen 55 and such bottom-retaining screen is functionally equivalent to the retaining tabs of the claimed invention. Note, it would have been obvious matter of design choice to provide either feature: a single bottom retaining screen as disclosed by Mlotek or a plurality of separate retaining tabs as claimed in order to hold or retain the catalyst substrate or screen inside the catalyst housing 79, absence of unexpected results. Mlotek discloses the catalyst



housing 79 with retaining tabs 81, which engage with tabs 83 to secure the catalyst substrate 55 to vent 42. Mlotek fails to disclose of clipping the device within a vent and securing the device to the vent without the use of screws. Olivo '640 teaches the internal device 70 including oxidation catalyst 114 can be mounted in the elongated body 115 by means of clip or snap-fit engagement without the use of screws (Col. 7, lines 2-20) and such configuration provide the benefits of accessibility and serviceability to the catalyst substrate. Thus, it would have been obvious in view of Olivo '640 to one having ordinary skill in the art to modify the catalytic device of Mlotek with securing means as taught by Olivo to gain the above benefits.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-20 and 23-25 have been considered but are moot in view of the new ground(s) of rejection. The amended claims 1, 21, and 24-25 introduces the feature of "engageable by snap-fit or slide-lock engagement" necessitate new grounds of rejection. Examiner agrees that Burstein fails to show the "snap-fit or slide-lock engagement" securing means, however, Olivo '640 teaches conventional means of securing the catalyst substrate including clips and snap-fit engagement other than nuts and bolts (See Paragraph 2 above). It would have been obvious to one having ordinary skill in the art to modify the securing means of Burstein with "snap-fit-engagement" securing means as taught by Olivo '640 to facilitate in maintenance and serviceability of the catalyst converter. With respect to the argument of Mlotek fails to disclose the "locking tabs are engageable by snap-fit or slide-lock

engagement with the vent to secure the catalytic converter device within an orifice of the vent”, Examiner agrees to a certain extent. Mlotek discloses the catalyst housing 79 with retaining tabs 81, which engage with tabs 83 to secure the catalyst substrate 55 to vent 42. However, Mlotek fails to disclose of clipping the device within a vent and securing the device to the vent without the use of screws. Olivo ‘640 teaches the internal device 70 including oxidation catalyst 114 can be mounted in the elongated body 115 by means of clip or snap-fit engagement without the use of screws (Col. 7, lines 2-20) and such configuration provide the benefits of accessibility and serviceability to the catalyst substrate. Thus, it would have been obvious in view of Olivo ‘640 to one having ordinary skill in the art to modify the catalytic device of Mlotek with securing means as taught by Olivo to gain the above benefits (See paragraph 5). Note, the combination of Mlotek in view of Olivo provide the same accessibility to the catalyst substrate as the claimed invention.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

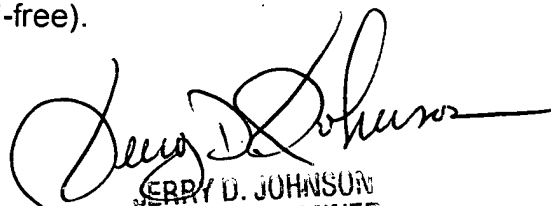
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P. Duong whose telephone number is (571) 272-2794. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Duong  
May 5, 2004  
TD 

  
JERRY D. JOHNSON  
PRIMARY EXAMINER  
GROUP 1100